LISTING OF THE CLAIMS

Claims 1-48 (Cancelled)

49. (Original) A method for calculating a ventricular performance value, said method comprising: measuring a change in ventricular pressure at two points in the cardiac cycle; measuring a change in a myocardial contraction force at corresponding points in the cardiac cycle; and determining the ventricular performance value based at least in part on a ratio between the measured changes in ventricular pressure and myocardial contraction force.

50. (Original) A method as in claim 49, wherein the changes in ventricular pressure and myocardial force are measured in the left ventricle.

51. (Original) A method as in claim 49, wherein the changes in ventricular pressure and myocardial force are measured in the right ventricle.

52. (Original) A method as in claim 49, wherein the change in ventricular pressure is measured with at least one pressure transducer implanted in a ventricular wall.

53. (Original) A method as in claim 49, wherein myocardial contraction force is measured across a ventricular septum.

54. (Original) A method as in claim 49, wherein the change in a myocardial force is measured with at least one strain gauge implanted in the myocardium.

55. (Original) A method as in claim 49, wherein the changes in ventricular pressure and myocardial contraction force are measured with implanted sensors.

56. (Original) A method as in claim 55, wherein the implanted sensors are implanted on a common implanted device.

57. (Original) A method as in claim 49, wherein the ventricular performance value is measured at successive times in order to monitor changes in the ventricular performance value.

58. (Original) A method as in claim 49, wherein the ventricular performance value is the ratio of the change in ventricular pressure over the change in myocardial contraction force.

59. (Original) A method as in claim 58, wherein the two points in the cardiac cycle are diastole and systole.

60. (Original) A method for calculating a hypertrophy value characteristic of a patient's heart, said method comprising: determining a cardiac output value; measuring a myocardial thickness change at two points in the cardiac cycle; and determining the hypertrophy value based at least in part on the ratio of cardiac output value and the measured myocardial thickness change.

61. (Original) A method as in claim 60, wherein the cardiac output value is stroke volume.

62. (Original) A method as in claim 61, wherein stroke volume is determined by measuring a quantity of air breathed, a change in oxygen concentration between inhaled air and exhaled air, a blood oxygen concentration in the left ventricle, a blood oxygen concentration in the right ventricle, a pulse rate, and calculating stroke volume based at least in part on these measured quantities.

63. (Original) A method as in claim 62, wherein stroke volume is the ratio of mean cardiac output over pulse rate, wherein mean cardiac output is calculated as oxygen consumed by the patient (quantity of air breathed times change in oxygen concentration) divided by the change in blood oxygen concentration between the right and left ventricles.

64. (Original) A method as in claim 63, wherein stroke volume is a mean stroke volume calculated as an average of stroke volume values measured over a time from one second to one minute.

65. (Original) A method as in claim 64, wherein the change in myocardial thickness is the maximum change in thickness measured at the time of determining the myocardial thickness change.

66. (Original) A method as in claim 65, wherein the mean myocardial thickness change is the average of the myocardial thickness measured over a time from one second to one minute.

67. (Original) A method as in claim 60, wherein the change in myocardial thickness is measured by a sensor assembly implanted across the myocardial wall.

68. (Original) A method as in claim 60, wherein the hypertrophy value is the ratio of the mean stroke volume over the cube of the mean myocardial thickness change.

Claims 69-88 (Cancelled)

89. (Original) A method for calculating a ventricular performance value, said method comprising: measuring a change in ventricular pressure at two points in the cardiac cycle; measuring a change in a myocardial thickness at corresponding points in the cardiac cycle; and determining the ventricular performance value based at least in part

on a ratio between the measured changes in ventricular pressure and myocardial thickness.

90. (Original) A method as in claim 89, wherein the changes in ventricular pressure and myocardial thickness are measured in the left ventricle.

91. (Original) A method as in claim 89, wherein the changes in ventricular pressure and myocardial thickness are measured in the right ventricle.

92. (Original) A method as in claim 89, wherein the change in ventricular pressure is measured with at least one pressure transducer implanted in a ventricular wall.

93. (Original) A method as in claim 89, wherein myocardial thickness is measured across a ventricular septum.

94. (Original) A method as in claim 89, wherein the change in a myocardial thickness is measured with at least one strain gauge implanted in the myocardium.

95. (Original) A method as in claim 89, wherein the changes in ventricular pressure and myocardial thickness are measured with implanted sensors.

96. (Original) A method as in claim 95, wherein the implanted sensors are implanted on a common implanted device.

97. (Original) A method as in claim 89, wherein the ventricular performance value is measured at successive times in order to monitor changes in the ventricular performance value.

98. (Original) A method as in claim 89, wherein the ventricular performance value is the ratio of the change in ventricular pressure over the change in myocardial thickness.

99. (Original) A method as in claim 98, wherein the two points in the cardiac cycle are diastole and systole.